

FACT SHEET



Barnwell Low-Level Radioactive Waste Disposal Facility

History

The Barnwell Low-Level Radioactive Waste Disposal Facility is approximately 278 acres located about five miles northwest of Barnwell adjacent to the Savannah River Site and South Carolina Advanced Technology Park (formerly the Barnwell Fuel Recycling Plant). For site operation, 235 acres are deeded to the state and leased to Chem-Nuclear Systems, LLC (CNS), a wholly owned subsidiary of EnergySolutions. The lease, administered by the SC Budget and Control Board, expires in 2075.

The Barnwell facility, one of three licensed commercial disposal sites in the United States, began receiving waste for disposal in 1971. On June 7, 2000, the Atlantic Interstate Low Level Radioactive Waste Compact Implementation Act was enacted by the SC General Assembly, which superceded all previous legislation applicable to the site and established a three state waste compact with Connecticut and New Jersey. The law authorized a decreasing schedule of annual waste volumes beginning in Fiscal Year 2001. After 2008, only waste from the Atlantic Compact states will be allowed for disposal at the site. The law also imposed disposal rates to be set by the SC Budget and Control Board, operational costs subject to review and approval by the Public Service Commission, and a 29 percent profit margin for CNS.

The facility is licensed by the SC Department of Health and Environmental Control. The license issued to CNS for operations at the facility expired July 31, 2000. An application for the license renewal was submitted by CNS on April 27, 2000. DHEC held a public hearing on December 11, 2003 to receive comments on the license renewal. Written comments were received until January 15, 2004. DHEC staff approved the request for renewal March 15, 2004 and amended the license for a term of five years. The license amendment was appealed by the local chapter of the Sierra Club and was heard by the SC Administrative Law Court in February 2005. The ALC upheld the DHEC staff decision October 13, 2005. The ALC decision is now under appeal by the Sierra Club. Since the license renewal was deemed timely filed, the expired license remains in effect until a final decision is reached.

On November 30, 2005, an amendment to the license was issued requiring CNS to implement additional security controls.

Major Changes in Disposal Technology

All waste received after December 31, 1995, has been placed in the concrete vaults with the exception of large items that can, by engineering evaluation, shown to be structurally stable. DHEC reviews these applications on a case-by-case basis. The vaults are placed below grade in engineered trenches and the waste is placed in the vaults. The waste is processed to a dry solid and packaged before shipment for disposal. When filled, the trench is covered with a multi-layer synthetic cover and clay cap to prevent percolation of water through the waste.

Environmental Monitoring

The facility is monitored by DHEC and CNS to meet all state and federal requirements. This includes water samples from monitoring wells both on and off site, air samples, soil samples and vegetation. The only radionuclides detected by the environmental monitoring are tritium, a radioactive form of hydrogen, and very small concentrations of Carbon 14 and Technetium 99 that have migrated from some of the oldest disposal trenches. Multi-layer caps were placed over these trenches to reduce infiltration of rainwater and migration of all radionuclides.

Tax Revenues and Financial Assurances

Since 1971, \$116 million in payments and accrued interests were deposited in the Barnwell Facility's Long-Term Care and Monitoring Fund as required by state law. The Decommissioning and Closure Fund is maintained separately with a balance of \$20 million. The facility operator also maintains over \$200 million in third party liability insurance.

Volumes & Capacity

The amount of waste disposed of at the site has decreased steadily over the past seven years. This is due to legislation, increased use of volume reduction techniques for the large volume waste streams and the disposal of bulk low-activity waste at the *EnergySolutions* site in Utah. Total volume of waste disposed through December 2006 is 28.03 million cubic feet. Due to radioactive decay, 3.08 million curies remain out of 12.4 million curies received and disposed.

The estimated remaining capacity of the site is 1.2 million cubic feet based on current disposal technology and operations methodologies. A progressive trench concept submitted by CNS to streamline disposal trench operations would increase the remaining waste capacity to approximately 2.2 million cubic feet. After 2008, only 8,000 cubic feet of waste per year is expected to be received from the Atlantic Compact.

Other Facts:

- All regulatory activities are funded through license fees collected by DHEC
- DHEC permits all generators who transport radioactive waste into or within the state
- Additional nuclear power reactors are expected to be built in the near future
- The Barnwell facility design exceeds federal regulatory requirements
- In 2006 South Carolina accounted for 6.6 percent of the national volume disposed at Barnwell
- For the past seven years, South Carolina accounted for 5 to 6 percent of the national volume disposed at Barnwell
- Radiological exposures to Barnwell site workers have been minimal
- No evidence of increased exposure to the public has occurred due to site operations or the transportation of waste